

DYLEVSKIY, A.A., inzhener.

Eliminating hand labor in the consumer goods industry. Mekh.trud.rab. 7 no.
10:12-14 O-N '53. (MLRA 6:10)
(Machinery in industry)

DYLEVSKIY, A.A., inzhener.

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For the mechanization of labor-consuming work. Tekst.prom.14 no.1:
6-8 Ja '54.

(MLRA 7:2)

(Conveying machinery)

DYLEVSKIY, A.A., inahener.

Increasing the moisture content of sized warp. Tekst. prom. 16
no.6:40-41 Je '56. (MLRA 9:8)
(Weaving) (Sizing (Textile))

DYLEVSKIY, A.A., inzhener.

Automatic operation of ventilation and humidification units.

Tekst.prom. 16 no.9:40-45 S '56. (MLRA 9:12)

(Textile factories--Heating and ventilation)

(Automatic control)

DYLEVSKIY, A.A.

Automatic doffing equipment on a spinning machine. Tekst.prom.
18 no.10:49-50 0 '58. (MIRA 11:11)

1. Rukovoditel' laboratorii avtomatiki Tsentral'nogo nauchno-
issledovatel'skogo khlopchatobumazhnogo instituta.
(Spinning machinery)

DYLEVSKIY, A.A.

Lap self-doffing on a scutching machine. Tekst.prom. 20 no.2:
74-76 F '60. (MIRA 13:6)
(Automatic control) (Textile machinery)

KHACHATUROV, T.S., otv. red. Prinimali uchastiye: BOR, M.Z., kand. ekon. i istor. nauk, red.; BOL'SHAKOV, Ya.A., red.; DYLEVSKIY, A.A., red.; YEMEL'YANOV, A.D., kand. ekon. nauk, red.; KRASOVSKIY, V.P., red.; SHUSTER, A.I., red.

[Methodology for determining the economic efficiency of introducing new machinery, mechanization and automation of industrial production processes. Approved by the State Planning Commission of the U.S.S.R. on December 9, 1961] Metodika opredeleniya ekonomicheskoi effektivnosti vnedreniya novoi tekhniki, mekhanizatsii i avtomatizatsii proizvodstvennykh protsessov v promyshlennosti. Uтверждено 9 декабря 1961 г. Москва, Изд-во Акад. наук СССР, 1962. 45 p. (MIRA 15:11)

1. Russia (1923- U.S.S.R.) Gosudarstvennaya planovaya komissiya.
2. Chlen-korrespondent Akademii nauk SSSR (for Khachaturov).
3. Gosudarstvennyy planovyy komitet Soveta Ministrov SSSR (for Bor, Dylevskiy).
4. Moskovskiy oblastnoy sovet narodnogo khozyaystva (for Bol'shakov).
5. Nauchno-issledovatel'skiy ekonomicheskii institut Gosudarstvennogo ekonomicheskogo soveta pri Sovete Ministrov SSSR po tekushchemu planirovaniyu narodnogo khozyaystva (for Yemel'yanov, Krasovskiy).
6. Akademiya nauk SSSR (for Shuster).

(Technological innovations) (Automation)

DYLEVSKIY, A.A.

Automatic doffing on spinning machines. Tekst.prom. 25 no.2:83-84
F '65. (MIRA 18:4)

DYLEVSKIY, A.A.

Seminar on the problems of mechanization in production. Tekst.
prom. 25 no.9:90 S '65. (MIRA 18:10)

DYIEVSKIY, B., inzhener; YUSHKOV, V., inzhener.

Secondary power resources. Mias.ind. SSSR 26 no.1:31-33 '55.
(MIRA 8:5)

1. Ministerstvo promyshlennosti myasnykh i molochnykh produktov
Soyuza SSR.
(Waste heat)

DYLEVSKIY, G.; KOLDAYEV, A., kand.sel'skokhoz.nauk

Following of the queen of fields. NTO 4 no.5:37 My '62.
(MIRA 15:5)

1. Zamestitel' predsedatelya Uzbekskogo pravleniya Nauchno-tekhnicheskogo obshchestva sel'skogo khozyaystva (for Dylevskiy).
2. Zaveduyushchiy sektsiyey rasteniyevodstva Uzbekskogo pravleniya Nauchno-tekhnicheskogo obshchestva sel'skogo khozyaystva (for Koldayev).

(Uzbekistan--Rotation of crops)

DYLEVSKIY, G. A.

5685-86. DYLEVSKIY, G. A. Sadovodstvo i Vinogradrstvo. Pod Obshch. Red. A.A. Rybakova. izd. 2-E. 1spr. 1 dop. Tashkent, Gosizdat UzSSR, 1954, 264s. g. Ill 23sm. (Trekhetniye Kolkhoz. Agrozootekhn. Kursy. Vtoroy God. Obucheniya). 50 00 Ekz Sr 20k V per-Na Pereplate Avt. Ne Ukazan.--Na Pereplate Z agl. Serii: Trekhetniye Agrozootekhn. Kursy.....--(55.1225) 634.1/8(02)

To Zhe. Tashkent, Gosizdat UzSSR, 1954. 276.s.s Ill. 23sm. 10,00 Ekz Sr 50 k V per. Na Uzbek.--(55-461).

SO: KnizhAnaya. Letopis, Vol. 1, 1955

DYLEVSKIY, Ye.F., student

Characteristics of the diaphthoresis of crystalline schists in
the Lower series of the Pre-Cambrian in the northern Ulutau.
Izv. vys. ucheb. zav.; geol. i razv. 7 no.4:84-89 Ap '64.
(MIRA 18:3)
1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.

SIKORSKIY, Vsevolod Mikhaylovich [Sikoraki, U.M.]; ^{DYLEVSKIY I.} DYLEUSKI, I., red.;
KARPINOVICH, Ya., tekhn. red.

[Great program of the building of communism] Velichnaia programa
budaunitstva kamunizma. Minsk, Dziarzhvyd BSSR, 1962. 136 p.
(MIRA 15:12)

(Russia--Economic policy)

DYLEVSKY, J.
CZECHOSLOVAKIA

BARTOS, J., POKORNY, J., ECKERT, V., KRUSINA, L., and TEISINGER, P., with technical cooperation of LUKASOVA, I., SLIVOVA, L., MATOUSOVIC, J., GRUNT, J., DYLEVSKY, J., and DUBSKY, J., First Clinic of Surgery (I. chirurgická klinika), Faculty of General Medicine (Fakulta všeobecného lékařství), Charles University, Prague, Prof. Dr. PAVROVSKY, director; Fourth Clinic of Internal Medicine (IV. interní klinika), Faculty of Internal Medicine, Charles University, Prague, Prof. Dr. M. FUCIK, director; Radiological Clinic (Radiologická klinika), Faculty of General Medicine, Charles University, Prague, Prof. Dr. V. SVAB, director, [individual affiliations cannot be determined].

"Direct Revascularization of Myocardium Following an Experimental Infarct in Dogs"

Prague, Casopis Lékárů Ceských, Vol CII, No 26, 28 June 63, p 725.

Abstract: Experiments lead to the following conclusions:

1. Anastomosis between the system and coronary artery is feasible even with a pulsating heart. 2. Infarct-like changes were observed following the tying of r. interventricularis. A partial adjustment took place following anastomosis. 3. Microscopic examination showed ischemic deposits in dogs with anastomosis
1/2

CZECHOSLOVAKIA

Prague, Casopis Lekarů Ceských, Vol CII, No 26, 28 June 63,
p 725.

in contrast to large infarcts in dogs without anastomosis.
4. A sudden inflow of blood into the ischemic deposit may be
accompanied by an immediate fibrillation of chambers. It can
be prevented by a temporary interruption of the blood flow
by means of anastomosis and its slow and interrupted liberation.

2/2

- 7 -

DYLEWSKA, Danuta; DARWAJ, Bohdan; REUTT, Natalia; WOJTONICZ, Zbigniew.

Results of neurological, electroencephalographic and psychological studies in children delivered by forceps. Neurol. neurochir. psychiat. pol. 13 no.5:607-610 '63

1. Z Kliniki Neurologicznej AM w Lublinie (kierownik: prof. dr. W Stein) i z Katedry Psychologii Wychowawczej UMCS w Lublinie (kierownik: doc.dr. N.Reutt) oraz z Kliniki Położnictwa i Chorob Kobiectych AM w Lublinie (kierownik: prof.dr.S.Liebhardt).

*

DYLEWSKA, Danuta

Skin temperature as a sign of vasomotor disturbances in sciatica.
Pol. tyg. lek. 20 no.37:1390-1392 13 S '65.

1. Z Kliniki Neurologicznej AM w Lublinie (Kierownik: prof. dr.
Wiktor Stein).

SOKOŁOWSKA-DEKOWA, A.; JUHNKE, J.; DYLEWSKA, K.; PIECHOTA, J.; PACZOS, E.

The level of adrenalin oxidase in the blood in cases of bronchial asthma in children. Otolaryng. pol. 17 no.4:433-434 '63.

1. Z I Kliniki Pediatricznej AM w Lublinie. Kierownik: doc. dr. med. A. Sokolowska-Dekowa.

*

DYLEWSKA, M.

FOLIA BIOLOGICA. (Polska Akademia Nauk. Zaklad Zoologii Doswiadczajnej)
Warszawa. (Journal on Morphogenesis, genetics, and evolution issued by the
Laboratory of Experimental Zoology, Polish Academy of Sciences; with English,
French, and Russian summaries.)

The spatial orientation in hedgehogs of the species Erinaceus roumanicus
Barret-hamilton. p. 73.

Vol. 5, No. $\frac{1}{2}$, 1957

Monthly List of East European Acessions (EFAI), LC, Vol. 8, No. 3, March 1959
Unclass.

EXCERPTA MEDICA Sec 8 Vol 12/9 Neurology Sept 59

4552. THE TREATMENT WITH ACTH OF MYELITIS AFTER ANTI-RABIES
VACCINATION - Leczenie hormonem adrenokortykotropowym zapalenia rdze-
nia po szczepieniu przeciw wściekliznie - Dylewska-Pawłowska D.
Klin. Neurol. A. M., Lublin - POL. TYG. LEK. 1958, 13/49 (1982-1985)

Two cases are described. From the first day of treatment the patients were given
ACTH. After a few days their condition began to improve; the improvement ad-
vanced rapidly; after a month the patients were cured. A control examination after
6 months confirmed complete recovery.

(L, 8)

DYLEWSKA-PAWLOWSKA, Danuta; SAWA, Jerzy

Thrombophlebitis of the cranial sinuses and cerebral veins in puerperium.
Neurol. neurochir. psychiat. pol. 12 no.1:127-130 '62.

1. Z Kliniki Chorob Nerwowych AM w Lublinie Kierownik: prof. dr
W. Stein Z Zakładu Anatomii Patologicznej AM w Lublinie Kierownik:
prof. dr S. Mahrgurg.

(PUERPERIUM compl)

(CEREBRA EMBOLISM AND THROMBOSIS case reports)

DYLEWSKA-PAWLOWSKA, Danuta; SAWA, Jerzy

Thrombosis inflammation of venous sinuses and cerebral veins after childbirth. Neurol neurochir psych 12 no.1:127-130 Ja-F '62.

1. Klinika Chorob Nerwowych, Akademia Medyczna, Lublin; Kierownik: prof, dr W. Stein; i Zaklad Anatomii Patologicznej, Akademia Medyczna, Lublin; Kierownik: prof. dr S. Mahrburg.

DYLEWSKI, A.

Improper care of locomotive boiler.

P. 279. (PRZEGLAD KOLEJOWY MECHANICZNY) (Warszawa, Poland) Vol. 9, no. 9, Sept. 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

Z/056/62/019/001/012/012
1037/1237

AUTHOR: Dylewski, A.

TITLE: Methods for measuring nonplanarity and nonlinearity

PERIODICAL: Přehled technické a hospodářské literatury. Hutnictví a strojírenství, v. 19, no. 1, 1962, 57

TEXT: Explanation of the error problem in nonplanarity measurements especially of large areas. Description of the different measuring methods (the cross section method, the layer method). Use of different kinds of ruler as well as of an optional ruler. Measurements of small and large surfaces. There are 20 schemes and 8 references.

HS 62-707. 1961 Mechanik, Warszawa 34, no. 413-418

[Abstracter's note: Complete translation.]

Card 1/1

DYLEWSKI, Andrzej, mgr inż; ZIELINSKI, Andrzej, mgr inż.

Causes for damages of rolling bearings of the ET 21 electric locomotive. Przegl kolej mechan 13no.10:309-314 0 '61.

DYLEWSKI, Andrzej, mgr inz.

Measuring methods of unevenness and misalignment. Mechanik 34
no.8:413-418 '61.

1. Politechnika, Warszawa.

DYLEWSKI, Andrzej, mgr. inż.

The IMEKO Conference, 1961 in Budapest. Mechanik 35 no.8:448-453
Ag '62.

DYLEWSKI, Andrzej, mgr inż.

Possibilities of applying the linear scale on the indicators
of air pressure gauges. Przegl mech 22 no. 12:384-385 25
Je '63.

1. Kierownik Izby Pomiarow, Instytut Lotnictwa, Warszawa.

DYLEMSKI, Andrzej

Change of the cycle between repairs of locomotive steam
boilers. Przegl kolej mechan 11 [i.e. 16] no.3:89-92
Mr '64.

1. Central Institute for Research and Development of
Railway Techniques, Warsaw.

DYLEWSKI, Andrzej, mgr inż.

Computation of pneumatic jet plugs for contactless measurements of holes. Przegl mech 23 no.16:458-462 25 Ag. '64.

1. Head, Chamber of Measurements, Institute of Aeronautics, Warsaw.

DYLEWSKI, Benedykt

Professor dr med. Jan Szmurlo. Otolaryngologia 8 no.1:87-92 1954.

(OBITUARIES,

Szmurlo, Jan)

(BIOGRAPHIES,

Szmurlo, Jan, bibliog.)

EXCERPTA MEDICA Sec 11 Vol 9/5 O.R.L. May 56

840. DYLEWSKI B., Klin. otolaryngol., Akad. med., Lublinie. Badania nad drogami powietrza oddechowego w nosie. Studies of the tracts of the respiratory air in the nose ANN. UNIV. LUBLIN, SECT. D 1954, 9 (209-224) Tables 1

The author examined the tracts of the respiratory air in the nose by observing the distribution of the inspired coloured powders (biotin) on the mucous membrane of the nose. The examinations were conducted on 564 persons in various positions of the head. Besides the generally accepted most common respiratory tract in the medial passage the air in the nose can simultaneously pass by other passages of the nose depending on many causes and above all, depending on the position of the head during respiration. The greatest and most visible influence on the tracts of the respiratory air in the nose cause changes of position of the head in the sagittal plane. Turning the head down causes a rising of the stream of air in the nose upwards and an upward rise of the head with an upwards turned face lowers the stream of air downwards, to the lower passage and the fundus of the nose.

From author's summary

DYLEWSKI, Benedykt

Balneological treatment of diseases of the upper respiratory tract and the ear. Otolar.polska 9 no.1:69-73 '55.

1. Z Kliniki Otolaryngologicznej A.M. w Lublinie. Kierl: prof. dr. B. Dylewski.

(RESPIRATORY TRACT, diseases
balneother. in upper tract dis.)
(EAR, diseases
balneother., indic.)

EXCERPTA MEDICA Sec 11 Vol 9/7 O.R.I.

July 56

1275. DYJEWSKI B. Lubartowska 50a, Lublin. * Leczenie chorób uszu długotrwa-
lymi ciągłymi przedmuchiwaniami trąbki słuchowej i ucha środkowego.
Treatment of ear diseases with prolonged continuous
inflation of the eustachian tube and the middle ear OTOLARYNG. POL. 1955, 9/2 (101-109) Graphs 2 Illus. 3

The author presents his own method of inflation of the eustachian tube and the middle ear through the nose with air pressure electric apparatuses. The inflation lasts on the average 5-10 min. with the open eustachian tube. The opening of the tube during the inflation is obtained by means of swallowing movements or by stretching the soft palate. The tinnitus felt by the patient is a proof of correct inflation and opening of the eustachian tube. This method of inflation of the ears in many instances is more efficacious than the short-lasting, interrupted inflation by means of politizerization or catheterization employed at present. The investigations show that prolonged inflation of the ears acts not only on the middle but also on the inner ear. For prolonged continuous inflation of the ears, the author uses an electric pump, a vacuum-cleaner or a hair-drying apparatus, after removal of the electric heater.

Author's summary

DYLEWSKI, Benedykt

Otitis media in acute diarrheas in infants. Otolaryng. polska 13 no.
3/4:565-580 '59.

1. Z Kliniki Otolaryngologicznej A.M. w Lublinie. Kierownik:
prof.dr B. Dylewski.

(OTITIS MEDIA in inf.& child.)

(DIARRHEA in inf.& child.)

DYLEWSKI, Benedykt; KUZNIARSKA, Krystyna; PRZESMYCKA, Sabina; BARTOSZEWICZ, Karol; WLODARSKI, Bronislaw; SEMCZUK, Boleslaw; GORALSKA, Krystyna; LOGWINIENKO, Hanna; WISLOCKA, Helena

Conditions of the upper respiratory tract and ears in patients with pulmonary tuberculosis. Otolaryng. polska 14 no.3:311-319 '60.

1. Z Kliniki Otolaryngologicznej A.M. w Lublinie, Kierownik: prof. dr B.Dylewski.

(TUBERCULOSIS pulmonary pathol)

(EAR pathol)

(RESPIRATORY SYSTEM pathol)

DYLEWSKI, Benedykt

Training of physicians in the field of pediatric otolaryngology.
Otolaryngologia 15 no.1:1-5 '61.

1. Z Kliniki Otolaryngologicznej AM w Lublinie Kierownik: prof.
dr med. B. Dylewski.

(OTORHINOLARYNGOLOGY educ) (PEDIATRICS educ)

DYLEWSKI, Benedykt

On the measurement and determination patency of the sino-nasal canal after radical surgery of the frontal sinus. Otolaryngologia 15 no.2: 127-130 '61.

1. Z Kliniki Otolaryngologicznej A.M. w Lublinie Kierownik: prof.
dr med. B. Dylewski
(FRONTAL SINUS surg)

DYLEWSKI, Benedykt

Otolaryngological injuries in the Lublin Region. Otolaryng. Pol. 16
no.1a:267-268 '62.

1. Z Kliniki Otolaryngologicznej AM w Lublinie Kierownik: prof. dr
med. B. Dylewski.

(OTORHINOLARYNGOLOGY statist)

DYLEWSKI, Benedykt.

Otolaryngological care for children in the framework of regional consultation. Otolaryng. pol. 17 no.4:476-478 '63.

1. Z Kliniki Otolaryngologicznej AM w Lublinie. Kierownik: prof.dr.B.Dylewski.

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DYLEWSKI, Benedykt

Results of the treatment of scleroma according to data of the
Lublin Otolaryngological Clinic. Otolaryng. Pol. 18 no.2:189-195
'64.

1. Z Kliniki Otolaryngologicznej Akademii Medycznej w Lublinie
(Kierownik: prof. dr. med. B. Dylewski).

DYLEMSKI, B.

Treatment of scleroma and the search for foci of scleroma from data of the ORL clinic in Lublin. Cesk. otolaryng. 14 no.1: 50-52 F'65.

1. Otolaryngologická klinika v Lublinie (prednosta: prof. dr. B. Dylewski).

DYLEWSKI, Henryk, inz.

The Elektromontaz Enterprise for Electrical Engineering has
applied technical progress widely. Przegl techn 85 no.29:4
19 J1 '64.

WASILEWSKI, Ludwik; SWATEK, Stanislaw; DYBLEWSKI, Rafal

Anodic disintegration of graphitized electrodes during electrolysis. Pt. 4. Chemia stosow 7 no.4:551-566 '63.

1. Katedra Elektrochemii Technicznej i Elektrometalurgii,
Politechnika Slaska, Gliwice i Instytut Chemii Nieorganicznej,
Gliwice.

WASILEWSKI, Ludwik; SWATEK, Stanislaw; DYLEWSKI, Rafal

Criteria and methods of evaluating the usefulness of graphitized electrodes in mercury electrolysis of aqueous alkali halide solutions. Chemia stosow 8 no. 1:45-58 '64.

1. Department of Engineering Electrochemistry and Electrometallurgy, Silesian Technical University, Gliwice, and Institute of Inorganic Chemistry, Gliwice.

KACZMAREK, Tadeusz, mgr inż.; DYLEWSKI, Rafal, mgr inż.; NYLICA, Irena,
mgr inż.

Impregnation of graphite electrodes applied in the electrolysis
of aqueous solutions of alkali chlorides. Chemik 18 no.2:56-58
F '65.

1. Institute of Inorganic Chemistry, Gliwice.

DYLEWSKI, Z.

DYLEWSKI, Z. Financial formalities must not hamper the transportation of
lumber. p. 16.

Vol. 29, no. 11, Nov. 1955

LAS POLSKI
AGRICULTURE
Poland

So: East European Accession, Vol. 6, No. 5, May 1957

DYLEWSKI, Z.

Dylewski, Z. Ways of establishing the production of resins. p. 18.

LAS POLSKI

Vol. 29, no. 6, June 1956

Warszawa, Poland

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 10 Oct. 56

DYLEVSKY, I.

Determination of age of embryos obtained by interruption of pregnancy. Cesk. morf. 13 no.2:97-103 '65

1. Institute of Anatomy, Faculty of Medicine, Charles University, Prague.

DYLGEROV, V. D.

6267. Dylgerov, V. D. Issledovaniye poroshkovykh figur na kristallakh kremnistogo zheleza. M., 1954. 7s. 21sm. (Mosk. ordena lenina gos. un-t im. M.V. lomonosova 100 ekz. B. Ts. 54-57502)

SO: Knizhamya Letopis' 1, 1955

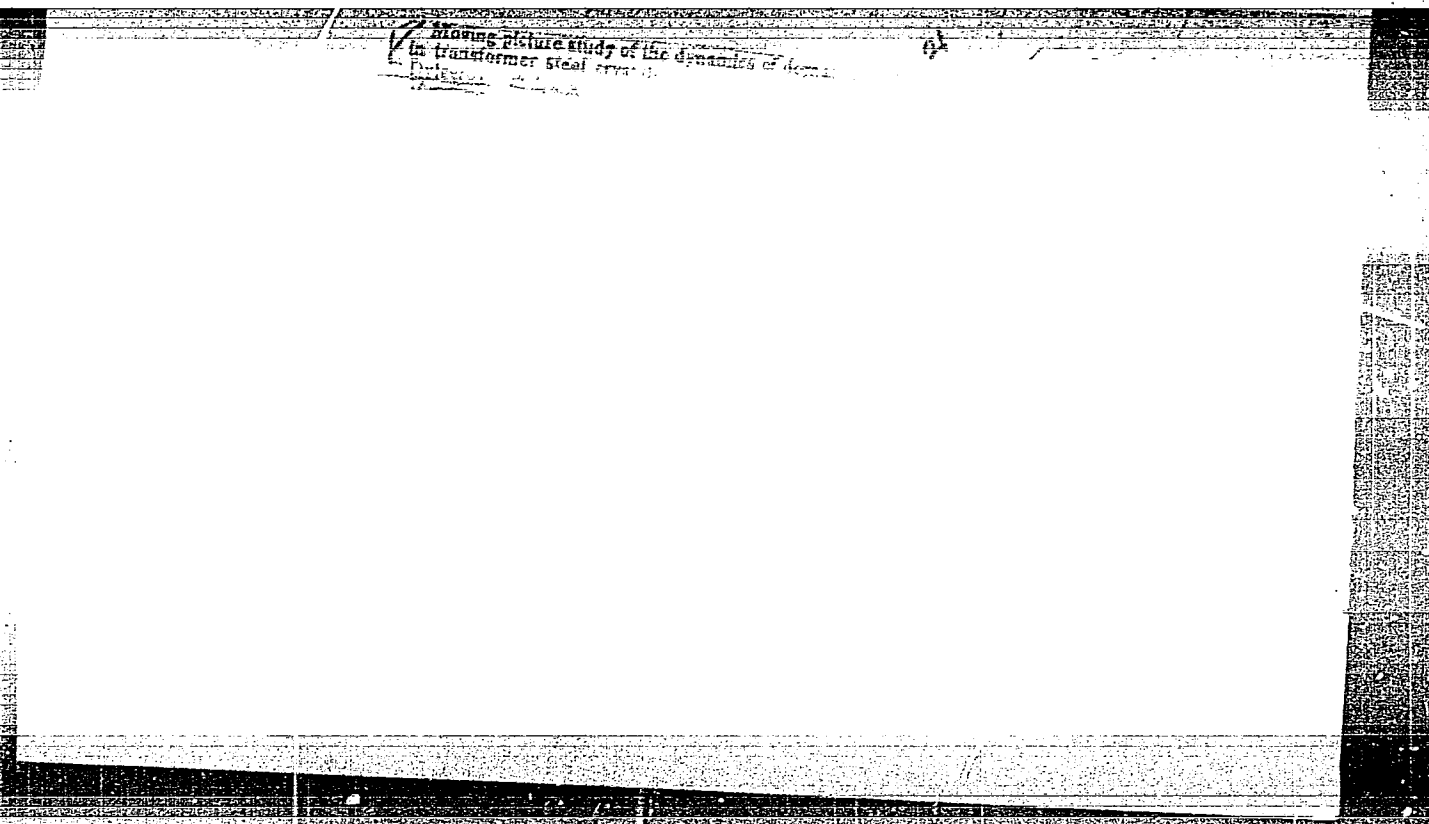
DYLGEROV, V. D.

"Investigation of Powder Figures on Crystals of Ferrosilicon (Iron Silicide)."
Cand Phys-Math Sci, Moscow Order of Lenin State U imeni Lomonosov, Moscow, 1954.
(KL, No 5, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

DYLGEROV, V. D., KYRENSKIY, L. V., and SAVCHENKO, M. K. (Krasnoyorsk)

"The Dynamics of the Domain Structure in the Silicon-Iron Crystals,"
paper presented at the International Conference on Physics of Magnetic Phenomena,
Sverdlovsk, USSR, 23-31 May 1956



DYL GEROU, V D

48-8-18/25

AUTHORS: Kirenskiy, L. V., Dylgerov, V. D.,
Savchenko, M. K.,

TITLE: Dynamics of the Doma Structure in Crystals of Silicious Iron
(Dinamika domennoy struktury v kristallakh kremnistogo zheleza)

PERIODICAL: Izvestiya AN SSSR, Ser. Fiz., 1957, Vol. 21, Nr 8, pp. 1168-1169
(USSR)

ABSTRACT: According to recent opinions, the process of technical magnetization consists of two stages: The process of shifting of doma partition walls and the process of the rotation, and is due to stresses occurring in the crystal. The paper deals with the result obtained by the investigation of powder patterns in the case of a constant change of stresses and magnetic fields, as also the observation of the rotation processes according to the powder pattern method. As samples disks of 13 mm diameter and 0,2 thickness and for the investigation of stress stripes 30x5x0,2 mm, which were cut out in different crystallographic directions, were used. In the chapter: Effect of elastic stresses it is said that the original doma structure in the case of the said sample (without the influence of stress) forms nearly parallel and in parts broken lines at unequal distances. The last-mentioned circumstance, that of the broken line, is explained by the effect produced by

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Dynamics of the Doma Structure in Crystals of Silicious Iron.

48-8-18/25

weak internal stresses, as well as also by the non-uniformity of the structure of the sample. If the sample is stretched in a longitudinal direction, stretching of the structure of the doma lines takes place in the transverse direction by the parallel shifting of the doma partitions, on which occasion a corresponding equalization of stresses occurs. In this case also wedge-shaped doma partitions may occur, which broaden in the direction of their point as soon as the extending force is applied. When the samples are extended in the transverse direction, the sharp doma partition walls may be dissolved. The structure on this occasion becomes wedge-like and, in the course of further extension, the unevenly distributed line particles are formed. With a further extension of these line parts they form a peculiar sort of ordered mosaic. In the case of extension in a certain direction it was observed that the doma structure was divided, on which occasion new partition walls were formed or partition walls disappeared entirely. The chapter: The influence of the external magnetic field describes the process of extending the sample in a direction in which its magnetic structure assumes a uniaxial character. In these uniaxial crystals the processes of rotation are then observed and investigated by means of powder patterns. Rotation of the magnetization vector was determined according to saturation figures,

Card 2/3

Dynamics of the Doma Structure in Crystals of Silicious Iron. 48-8-18/25

which were always perpendicular to the direction of the magnetization vector. In this paper series of cinematographic films are mentioned which confirm the aforementioned statement. There are 8 figures and 2 non-Slavic references.

ASSOCIATION: Krasnoyarsk State Pedagogical Institute (Krasnoyarskiy gos. pedagogicheskiy institut)

AVAILABLE: Library of Congress

Card 3/3

S/196/61/000/010/003/037
E194/E155

AUTHORS: Degtyarev, I.F., and Dylgerov, V.D.

TITLE: The dynamics of the domain structure in rotating magnetic fields

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1961, 2, abstract 10B 6. (Symposium "The magnetic structure of ferromagnetics", Novosibirsk. Siberian Division AS USSR, 1960, 47-49)

TEXT: The dynamics of the domain structure was investigated in single crystals of transformer steel on the plane (110) in rotating magnetic fields using magneto-optical and powder methods. It was shown that a complicated rearrangement of domains occurs in specimens of normal thickness (0.5 - 0.3 mm), but in specimens less than 0.1 mm thick only a displacement of the 180-degree boundaries is observed. 1 literature reference.

ASSOCIATION: In-t fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarsk (Physics Institute of the Siberian Department, AS USSR, Krasnoyarsk)

Card 1/1
[Abstractor's note: Complete translation.]

S/070/60/005/005/013/017
E132/E360

AUTHORS: Dylgerov, V.D. and Degtyarev, I.F.

TITLE: On Peculiarities in the Development of the Domain
Structure in Ferromagnetic Crystals, as Shown by
Different Methods

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 5,
pp. 809 - 811

TEXT: Powder and magneto-optical methods have been used to study certain types of the superficial configurations of the domains on the surface near to the crystallographic plane 110 in crystals of transformer steel. The reason for the study was to compare the methods based on different physical principles. Discs 0.3 mm thick were cut from coarsely crystalline sheets of transformer steel containing 3% Si. The surface was carefully examined to identify parts with the most characteristic domain structure and these were photographed. A region showing a boundary where domains with orientations 180° apart meet is shown as seen by the two methods. The powder method has the advantage that it permits a large optical magnification to be used for photography, which so far cannot be achieved with the other method. The
Card 1/2

S/070/60/005/005/013/017
E132/E360

On Peculiarities in the Development of the Domain Structure in
Ferromagnetic Crystals as Shown by Different Methods

magneto-optical method has advantages not possessed by the other.
There 3 figures and 3 references: 1 Soviet and 2 English.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya AN SSSR
(Institute of Physics of the Siberian Department
of the AS USSR)

SUBMITTED: December 15, 1959

Card 2/2

S/070/60/005/006/008/009
E021/E306

AUTHORS: Dylgerov, V.D. and Drokin, A.I.

TITLE: Domain Structure on a Single Crystal of Yttrium-iron Garnet

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 6,
pp. 945 - 950

TEXT: The ideal form of a garnet crystal is shown in Fig. 1. The single crystal used in this investigation had twelve distinct faces, two rhombodecahedral, two hex-octahedral and eight under-developed shapes. Powder figures were obtained on the faces in the usual way (Ref. 2). The faces did not require polishing before applying the powder. Fig. 2 shows photographs of the powder figures on seven of the faces in the absence of a magnetic field. The powder was found to be in parallel lines or strips, running along the large diagonal of the rhomb on the rhombodecahedral faces (first and seventh photographs, Fig. 2). Fig. 3 shows photographs of powder figures produced on the Card 1/3

✓

S/070/60/005/006/008/009
E021/E306

Domain Structure on a Single Crystal of Yttrium-iron
Garnet

rhombodecahedral faces by magnetising the crystal along the large diagonal of the rhomb. On increasing the field to 35 Oe, the powder on some of the strips thickened and on the remaining strips the powder was thinned out. With further increase in the magnetic field, the regions with the thickened powder divided, and gradually became more diffuse. After switching off the field and demagnetising the sample, the original powder figures were obtained. When the crystal was magnetised along the least diagonal of the rhomb (perpendicular to the powder lines on the (110) face) further changes occurred. As the field was increased, some of the lines disappeared and others were intensified. The powder figures on the hexoctahedral faces $\{321\}$ in the absence of a magnetic field had a complex fine structure (second to sixth photographs, Fig. 2). The figures produced when this face was magnetised were extremely

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S/070/60/005/006/008/009
E021/E306

Domain Structure on a Single Crystal of Yttrium-iron
Garnet

complicated and no photographs are shown.
There are 4 figures and 3 non-Soviet references.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya
AN SSSR (Institute of Physics, Siberian
Department of the AS USSR)

SUBMITTED: Manuary 7, 1960

Card 3/3

S/139/61/000/004/015/023
E073/E535

AUTHORS Dybcerov, V.D. and Dookin, A.I.

TITLE Investigation of powder patterns on single crystals of lead hexa-ferrite

PERIODICAL Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no. 4, 1961, 120-123 - 1 plate

TEXT The authors studied the magnetic structure of single crystals of $\text{PbFe}_{12}\text{O}_{19}$. Single crystals of this compound as well as $\text{Y}_3\text{Fe}_5\text{O}_{12}$ and $\text{PbFe}_{12}\text{O}_{19}$ were produced by A. G. Titova at the Institut poluprovodnikov AN SSSR (Semiconductor Institute AS USSR) by the method described by J. W. Nilsen and E. F. Devrhorn (Ref. 3: Journ. Appl. Phys., 29, 3, 390, 1958. Ref. 4: J. Phys. Chem. Solids, 9, 3, 202, 1958). To obtain large crystals, a mixture of lead oxide and boron anhydride was used as a solvent; in this case the mixture was of the following composition: 7-14% B_2O_3 , 38-45 PbO , 44 Fe_2O_3 , 3.5 Y_2O_3 . The constituents were mixed, dried and heated in a crucible to 1510°C , maintained at that temperature for 4 hours and cooled to 950°C at a rate of 4 to $5^\circ\text{C}/\text{hour}$. By long boiling and 1/3

Investigation of powder patterns . . . 5/139/61/000/004/015/023
E073/E535

in a 20% aqueous solution of HNO_3 . $\text{Y}_3\text{Fe}_5\text{O}_{12}$ and $\text{PbFe}_{12}\text{O}_{19}$ single crystals were produced. The $\text{PbFe}_{12}\text{O}_{19}$ single crystals were 7 to 10 times as heavy as the $\text{Y}_3\text{Fe}_5\text{O}_{12}$ single crystals having diameters of up to 15 mm. The investigated single crystals of $\text{PbFe}_{12}\text{O}_{19}$ were 2 to 3 mm in diameter and 1.48 and 0.64 mm thick in the direction $[100]$. The faces of the single crystals were mirror smooth and did not require polishing. The magnetic suspension was prepared in the usual way and the powder patterns were photographed through a microscope; the magnetic field was produced by means of a special electromagnet. The powder patterns were investigated on the surfaces (100) and (110) . Photographs of some of the obtained powder patterns are reproduced in the paper. The following conclusions are arrived at:
1. The domain structure in single crystals of $\text{PbFe}_{12}\text{O}_{19}$ is a system of plane-parallel domains, and the planes are parallel to the hexagonal axis. Similar patterns were observed by A. G. Gurev, A. I. Gurev and R. L. Gurev (Ref. 1, J. Appl. Phys., 27, 1341, 1956) and J. G. Gurev (Ref. 2, Proc. Phys. Soc., 70B, 441, 1957) and 2/3

Investigation of powder patterns ... S/139/61/000/004/015/023
E073/E535

on crystals of $\text{BaFe}_{12}\text{O}_{19}$.

2. The magnetic structures of $\text{PbFe}_{12}\text{O}_{19}$ and of $\text{BaFe}_{12}\text{O}_{19}$ are identical to that of cobalt.

3. The structure in the plane (0001) depends on the thickness of the crystal along the hexagonal axis; in thin specimens a forked structure was observed.

4. Apparently for any hexagonal single crystals of ferrites with a magneto-plumbite structure, the magnetic structure is identical with the structure of cobalt.

Acknowledgments are expressed to A. G. Titova for producing the single crystals. There are 3 figures and 9 references: all non-Soviet. Four of the English-language references are quoted in the text.

ASSOCIATION: Krasnoyarskiy pedinstitut i Institut fiziki SO AN
SSSR (Krasnoyarsk Pedagogic Institute and
Physics Institute SO AS USSR)

SUBMITTED: April 7, 1960

Card 3/3

20133

9.4300 (and 1147, 1158)

S/181/61/003/002/031/050
B102/B201

AUTHORS: Drokin, A. I., Dylgerov, V. D., and Zolotarev, Yu. M.

TITLE: Dynamics of powder patterns on magnesium-manganese-ferrite single crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 553-557

TEXT: Results obtained from studies of the domain structure of magnesium-manganese-ferrite single crystals with a rectangular hysteresis loop are offered within the framework of the problems concerning the relationship between the form of hysteresis and the domain structure. These spinel-type single crystals were grown from a solution by A. G. Titova at the Institut poluprovodnikov AN SSSR (Institute of Semiconductors AS USSR) and had the following composition: $0.5 \text{ mole\% Fe}_2\text{O}_3 + 0.4 \text{ mole\% MnO} + 0.1 \text{ mole\% MgO}$. The following temperature-time characteristic was followed: heating from 20 to 1370°C during three hours, holding at 1370°C during three hours, cooling to 1200°C (rate: $60^\circ/\text{hr}$), further cooling to 800°C ($15^\circ/\text{hr}$). The crystals obtained were

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20133

Dynamics of powder patterns on ...

S/181/61/003/002/031/050
B102/B201

plate-shaped, 0.1-0.3 mm thick, and up to 10 mm in diameter. The single crystals displayed mirror faces, so that no polishing was necessary. The crystal orientation was determined with an X-ray apparatus of the type YPC-70 (URS-70), and the plate surface was found to be parallel to the (110)-plane (lattice constant: 8.5 Å). The magnetic suspension used was prepared in the usual manner, and the patterns obtained there- with were examined with an MBI-6 (MBI-6) microscope. Magnetization and magnetic reversal were performed by means of a special electromagnet, with fields up to 26 oersteds. Numerous microphotographs of powder patterns are shown (not reproducible) and discussed. The following results were obtained: 1) if magnesium-manganese-ferrite single crystals are magnetized by a field in the [011] direction, the domain boundaries are displaced in the case of very weak fields only; in fields whose strength approaches the coercive force, the magnetization vectors undergo an Umklapp process into the field direction, with the form of the domain structure being essentially conserved; 2) in the magnetic reversal of single crystals by a field lying in the [011] direction, no displacement of the boundaries between the domains is observable, and there only take place Umklapp processes with the domain structure being

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20133

Dynamics of powder patterns on ...

S/181/61/003/002/031/050
B102/B201

conserved. In fields near the coercive force, the magnetization vectors undergo an Umklapp process; 3) when single crystals undergo magnetization and magnetic reversal by fields in perpendicular to the [011] direction, a displacement of the boundaries and an Umklapp process of the magnetization vectors will be observable, while the patterns will not undergo any abrupt changes; 4) the mechanism of the processes of magnetic reversal of ferrites with rectangular hysteresis differs from that in metals. No appearance and growth of nuclei with magnetic reversal is observable on a change of direction and magnitude of the field. The rectangular shape of the hysteresis in polycrystalline ferrites can be assumed to be caused by crystals whose [011] axes lie in the field direction, and that in this connection Umklapp processes play the main role, a displacement of boundaries, however, not being excluded for the other crystals. A. G. Titova is finally thanked for having prepared the single crystals. N. S. Akulov and Ye. I. Kondorskiy are mentioned. There are 4 figures and 12 references: 9 Soviet-bloc and 2 non-Soviet-bloc.

X

Card 3/4

20133

Dynamics of powder patterns on ...

S/181/61/003/002/031/050
B102/B201

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya AN SSSR Krasnoyarsk
(Institute of Physics of the Siberian Department of the
AS USSR, Krasnoyarsk)

SUBMITTED: June 13, 1960

Card 4/4

24.2200

3160h
S/048/61/025/012/009/022
B116/B138

AUTHORS: Kirenskiy, L. V., Drokin, A. I., Dylgerov, V. D., Sudakov, N. I., and Zagirova, Ye. K.

TITLE: Temperature dependence of the first anisotropy constant and magnetic structure of iron-manganese ferrites

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 12, 1961, 1472 - 1476

TEXT: The temperature dependence of the first magnetic anisotropy constant K_1 of an iron-manganese ferrite single crystal was studied in the (100) plane, and its domain structure in the (110) plane. Balls 4 - 8 mm diam were made from specimens grown in a Verneuil's apparatus from $MnFe_2O_4$ with manganese excess ($25\% Mn_3O_4$) by A. A. Popova at the Institut kristallografii AN SSSR (Institute of Crystallography AS USSR). To find K_1 and $K_1(T)$ the torques acting on the specimen in a uniform magnetic field were measured on an Akulov anisometer with a slightly modified strain gauge (error in measurement, $\leq 2\%$). Torque curves were first recorded in Card 1/4

Temperature dependence of the first....

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S/048/61/025/012/009/022
B116/B138

different fields at room and oxygen temperatures, as a function of the angle between the direction of field and the $[100]$ axis. Then the continuous variation in maximum torque in the (100) plane was examined in the temperature range $-183^\circ - +300^\circ - -183^\circ$. A field strength of 5100 produced saturation. Powder patterns were produced by W. S. Elmore's method (Ref.11, see below). The graphs show that at 22°K torque is nearly zero in fields of up to 750 oe. Between 750 and 1000 oe it increases, reaching $0.71 \cdot 10^{-4} \text{ erg} \cdot \text{cm}^{-3}$, after which it remains constant. In fields of up to 3000 oe there was a sharp increase at the temperature of boiling oxygen. The linearity of $K_1 = f(T^2)$ means that the Bryukhatov-Kirenskiy law holds for this type of crystal also. Extrapolation to absolute zero yielded $K_0 = 17 \cdot 10^4 \text{ erg} \cdot \text{cm}^{-3}$. The nature of a domain structure is found to be dependant on the direction of demagnetization. With demagnetization in the $[110]$ direction, the powder patterns in the (110) plane form thick, parallel lines perpendicular to one of the axes of easy magnetization. A secondary, wedge-shaped structure between the principal lines, indicates that the surface deviates slightly from the (110) plane. Domain structure remains constant under magnetization in the $[110]$ direction up to 400 oe; up to 600 oe only the secondary structure is changed. Between 750 and

Card 2/4

31604
S/048/61/025/012/009/022
B116/B138

Temperature dependence of the first...

1000 oe new boundaries are formed perpendicular to the second direction of easy magnetization, with another wedge-shaped secondary structure between them. Around 1000 oe, the formation of new boundaries ceases and the old ones practically disappear. The new boundaries disappear at about 1300 oe. However, new boundaries are not formed everywhere, and, where this has not occurred, the initial domain structure will reappear after demagnetization in the [110] direction. The structure remains unchanged up to 723 oe and disappears at 1300 oe. No boundaries shifts are observed. Comparing variations in torque and domain structure with the field increase, it is concluded that the greatest changes in domain structure occur in the same fields in which the crystal anisotropy increases most strongly. Papers by T. M. Perekalina, A. A. Askochenskiy (Ref.3: stat'ya v sb.: Ferrity. Izd. AN BSSR, Minsk, 1960), Ye. A. Turov and A. I. Mitsek (Ref.10: stat'ya v sb.: Ferrity . Izd. AN BSSR, Minsk, 1960) are mentioned. There are 4 figures and 11 references: 6 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: Ref. 1: Bozorth, R. M., Tilden, E. F., Williams, A. J., Phys. Rev., 99, 6, 178 (1955); Ref. 2: Bickford, L. R., Phys. Rev., 78, 449 (1950); Ref. 4: Bates, L. F., Craik, D. J., Griffiths, P. M., Isaac, E. D., Proc. Roy. Soc., A 253, 1

Card 3/4

Temperature dependence of the first....
S/048/61/025/012/009/022
B116/B138

(1959); Ref. 5: Smith, A. W., Williams, G. W., Canad. J. Phys., 38, 9, 1187
(1960).

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR
(Institute of Physics of the Siberian Department of the
Academy of Sciences USSR), Institut tsvetnykh metallov im.
M. I. Kalinina (Institute of Nonferrous Metals imeni M. I.
Kalinin), Krasnoyarskiy pedagogicheskiy institut (Krasnoyarsk
Pedagogical Institute)

Card 4/4

10071

247900

S/181/62/004/000/001/045
B108/B186

AUTHORS: Drokin, A. I., Dylgerov, V. D., Sudakov, N. I., and
Starostin, I. I.

TITLE: Temperature dependence of rotary-hysteresis losses in
Mg-Mn ferrites

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2293-2296

TEXT: Magnetic moments and hysteresis losses of monocrystalline Mg-Mn ferrites were studied in a rotary magnetic field at various temperatures (-185° , $+22^{\circ}$, $+100^{\circ}\text{C}$) and at various field strengths (H from 700 to 4000 oe). Moment curves were found to be analogous to those of silicon iron which, like Ni and meteoritic Fe crystals, several authors have already investigated. Results: Akulov's theory was partly refuted on the ground that hysteresis losses did not drop to zero either at low (-195°) or at elevated ($500-700^{\circ}$) temperatures. Single crystals, carefully prepared by the Institut poluprovodnikov AN SSSR (Institute of Semiconductors of the AS USSR), were precisely ground to the (110) face and etched in 30% sulfuric acid. Powder figures were observed and photographed using a M6H-6 (MBI-6) microscope. Magnetization was effected by means of a specially powerful
Card 1/3

Temperature dependence of ...

S/181/62/004/009/001/045
B108/B186

electromagnet with a small pole gap. High degree of rectangularity (98 %) was of special interest. While moment curves have the period π at lower H (up to 700 oe), they are characterized at higher H by the equation

$$M = \frac{k}{8} (2\sin 2\psi + 3\sin 4\psi),$$

where M - magnetic moment, ψ - the angle between the direction $[CO_1]$ and the field. Coincidence between the direct and inverse torque occurs only at -183°C . At this temperature, Amulov's theory is valid for H up to 1500 oe. With increasing temperatures and H values, the hysteresis losses reach their maximum value at 1200 oe: at $+22^\circ\text{C}$ about $9 \cdot 10^{-2}$ erg/cm³; afterwards the curve dips slightly and increases continuously from 2000-4000 oe; at $+100^\circ\text{C}$ the peak lies approximately at $5 \cdot 10^{-2}$ erg/cm³ and drops slightly over the range of 2000-4000 oe. The losses, however, never become zero. Until now there has been no theory able to explain the existence of hysteresis losses above 1500 oe. Observation of the domain structure dynamics drew attention to strongly distorted boundaries, ascribed to strong internal stresses and nonhomogeneities. The most prominent changes in the

Card 2/3

Telex code dependence of ...

S/131/62/004/009/001/045
B106/3186

domain structure were observed between 900 - 1000 oe of the rotary field.
There are 3 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya AN SSSR Krasnoyarsk
(Physics Institute of the Siberian Department AS USSR, Kras-
noyarsk)

SUBMITTED: February 1, 1962

Card 3/3

38382

S/070/62/007/003/022/026
E132/E460

24.7000

AUTHORS: Drokin, A.I., Dylgerov, V.D., Beznosikov, B.V.

TITLE: The domain structure of ferrite monocrystals - the yttrium, holmium, erbium and gadolinium garnets

PERIODICAL: Kristallografiya, v.7, no.3, 1962, 465-468

TEXT: Crystals of the yttrium iron garnet type when grown in medium viscosity melts with a cooling rate of 2 to 3°/hour are isometric with the faces {110} or {110} and {211}. In more viscous melts the crystals are elongated with the forms {211} and {110}. The domain structure in the isometric crystals has been studied but not so far that of the elongated crystals. Reports of the form {321} for the latter appear to be incorrect. The domain structure and its movements in a magnetic field have now been studied for the Y, Ho, Er and Gd iron garnets. Crystals were 4 to 7 mm long. The domain structure was disclosed by powder figures. Microphotographs are reproduced. For the Y, Ho, Er and Gd iron garnets the fields necessary to produce non-domain structures were found to be respectively 450, 135, 75 and 90 Oe. There are 5 figures.

Card 1/2

The domain structure ...

S/070/62/007/003/022/026
E132/E460

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya AN SSSR
(Institute of Physics of the Siberian Section AS USSR)

SUBMITTED: August 26, 1961

Card 2/2

DROKIN, A.I.; DYLGEROV, V.D.; SUDAKOV, N.I.; ZAGIROVA, Ye.K.

Losses on rotational hysteresis and dynamics of a domain structure
in rotating fields of iron-cobalt ferrite single crystals. Fiz.
met. i metalloved. 13 no.5:788-792 My '62. (MIRA 15:6)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarskiy
pedagogicheskiy institut i Institut tsvetnykh metallov imeni
M.I. Kalinina.

(Ferrites—Magnetic properties)
(Domain structure)

DROKIN, A.I.; DYLGEROV, V.D.; SUDAKOV, N.I.; STAROSTIN, I.I.

Temperature dependence of rotational hysteresis losses in
magnesium-manganese ferrates. Fiz. tver. tela 4 no.9:2293-2296
S '62. (MIRA 15:9)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarsk.
(Hysteresis) (Ferrates--Magnetic properties)

S/139/63/000/001/008/027
E202/E420

AUTHORS: Drokin, A.I., Dylgerov, V.D.

TITLE: Domain structure of single crystals of cobalt-zinc ferrites

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.1, 1963, 39-42

TEXT: The authors studied domain structure and the change of this structure with varying degree of strain in the spinel type of cobalt and cobalt-zinc single crystals. The relations between the domain structure and the field were also partially studied. The crystals were grown from molten solvents. The composition of the cobalt zinc ferrites was $0.5 \text{ Fe}_2\text{O}_3 \times 0.3 \text{ CoO} \times 0.2 \text{ Zn\% mol.}$ The melt was heated to 1320°C for 2 hours and then cooled to 750°C at 15°C per hour. The single crystals were in the shape of platelots 3 to 4 mm and 0.7 to 1 mm thickness. X-ray methods showed that the surface of the crystals contained the (111) plane. The observation and photography of powder figures was carried out using a microscope; the magnetic field was applied to the sample by means of a special electric magnet. W.C.Elmore's method
Card 1/3

Domain structure of single ...

S/139/63/000/001/008/027
E202/E420

(Phys. Rev., v.51, 1938, 1092; v.62, 1942, 468) was used to prepare the magnetic powder suspension. The surface of the crystals was highly polished and did not require any etching. In the absence of a magnetic field, powder figures showed small domains distributed in a form of 3 series of straight lines making an angle of 120° between each other. This form of powder figures was related to the crystallographic structure since the observed surface contained three principal crystallographic axes of the type $[110]$. The line series were parallel to the $[\bar{2}11]$, $[11\bar{2}]$ and $[1\bar{2}1]$ axes. The application of a magnetic field parallel to $[\bar{2}11]$ changed the powder figures very little and only when the field exceeded 500 Oe were the lines parallel to the field covered by the residual series of domains. When the field disappeared the domain structure returned substantially to the original form. The domain structure on the (111) surface of a highly strained cobalt-zinc ferrite showed a large system of domains consisting of groups of parallel bands. Directions between the groups of bands were at several angles varying from 60 to 120° . It was concluded on the basis of the experiment that the domain structure of single crystals of

Card 2/3

Domain structure of single ...

S/159/63/000/001/008/027
E202/E420

cobalt ferrites on the (111) surface has the form of a series of straight bands directed along $[11\bar{2}]$. On the (100) planes the bands are perpendicular to the edge of the cube. When zinc ions are added, the domain structure takes the form of a series of parallel bands of width 10 to 15 μ directed parallel to the $[211]$, $[11\bar{2}]$, $[1\bar{2}1]$ axes. Strained samples showed similar structure with a series of parallel domains as in the case of weakly strained samples, but the series of bands were disposed at different angles to each other, which was attributed to the deformation of the crystalline lattice. The view that cobalt and cobalt-zinc ferrites exhibit a domain structure in very high magnetic fields and exert influence on the magnetization phenomena was confirmed. There are 5 figures.

ASSOCIATION: Institut fiziki SO AN SSSR g. Krasnoyarsk
(Physical Institute SO AS USSR Krasnoyarsk)

SUBMITTED: August 28, 1961

Card 3/3

DROKIN, A.I.; DYLGEROV, V.D.; SUDAKOV, N.I.; ZAGIROVA, Ye.K.

Temperature dependence of the anisotropy constant and the
magnetostriction of magnesium-manganese ferrites at indoor
temperature. Izv. SO AN SSSR no.2 Ser. tekhn. nauk no.1:99-
103 '63. (MIRA 16:8)

1. Krasnoyarskiy institut fiziki Sibirskogo otdeleniya AN SSSR
i Institut tsvetnykh metallov imeni M.I. Kalinina, Krasnoyarskiy
pedagogicheskiy institut.
(Ferrites) (Anisotropy) (Magnetostriction)

ACCESSION NR: AP3000937

S/0139/63/000/002/0111/0111

AUTHORS: Drokin, A. I.; Dy*lgerov, V. D.; Sudakov, N. I.; Vlasov, M. V.

TITLE: Dependence of rotary hysteresis loss in magnesium-manganese ferrite single crystals on the magnitude of magnetic field and temperature

SOURCE: Izv. VUZ. Fizika, No. 2, 1963, 111-111

TOPIC TAGS: magnetic hysteresis, ferrite, single crystal, mechanical moment, magnetic field

ABSTRACT: Rotary magnetic hysteresis loss has been studied on the (100) plane of magnesium-manganese ferrite single crystals, together with the dynamics of powder figures in the rotary magnetic field. The rotary loss was investigated by measuring the mechanical moment acting on single crystal ferrite pellets placed in a homogeneous magnetic field slowly rotating in forward and reverse directions. Field strength varied between 0 to 4000 oersteds at temperatures from -183 to 100C. The powder figures were photographed through a MBI-6 microscope. The results show that anisotropy in the single crystal plane (100) at 700 oersteds and up and the rotary hysteresis loss increase with increase in field strength, reaching a maximum around 900-1250 oersteds and subsequently decreasing. The authors express their gratitude

Card 1/2

ACCESSION NR: AP3000937

to A. G. Titova for procuring the single crystals." Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki SO AN SSSR (Institute of Physics SO AN SSSR); Institute tsvetny*kh metallovm im. M. I. Kalinina Krasnoyarskiy pedinstitut (Institute of Nonferrous Metals, Krasnoyarsk Teachers Institute)

SUBMITTED: 30Jan62

DATE ACQ: 11Jun63

ENCL: 00

SUB CODE: MA

NO REF SOV: 008

OTHER: 003

Card 2/2

S/126/63/015/001/017/C29
E073/E420

AUTHORS: Drokin, A.I., Dylgerov, V.D.

TITLE: Domain structure of single crystals of magnesium-manganese ferrites

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963, 128-132

TEXT: The aim of the work was to elucidate whether it was possible to observe on various crystallographic planes of a magnesium-manganese ferrite with a rectangular hysteresis loop, a domain structure differing in shape and character and to study the dynamics of the structure during magnetization of a specimen along different crystallographic orientations. A 6 mm diameter sphere and a 1 mm thick ring with 5 mm outer and 2 mm inner diameter were cut from one single-crystal rod. Hence a chemical analysis of the composition immediately after crystallization was not required and the degree of rectilinearity of the hysteresis loop could be measured directly. The value for the rod was high, $B_r/B_s = 98.1\%$, $H_c = 0.9$ Oe. The direction of easy magnetization for the sphere coincided with the axes type $[111]$. The domain structure on the plane (100) resembled fern-patterned frost.

Card 1/3

Domain structure ...

S/126/63/015/001/017/029
E073/E420

reminiscent of the structure observed by L.F.Bates et al (Proc. Phys. soc., v.71, no.5, 1958, 789). The appearance of the structure depended on the direction of the AC demagnetization. With increasing fields up to 700 to 750 Oe the patterns changed only slightly but at 860 to 880 Oe there was a sudden reconstruction of the domain structure. Magnetization in the direction of the [010] caused the formation of domains in a direction approaching that of the field. The structure became "spiky" when magnetization was in the direction [011]. Further increase in the field intensity did not produce any appreciable change in the pattern. However in fields of 1250 to 1260 Oe the domain structure ceased to exist. In the plane (110) domains with strongly curved boundaries and numerous "drop-shaped" closed areas could be seen. Similar as well as other patterns could be observed in the plane (111). Here again, the domain structure changed insignificantly in weak magnetic fields but there was a radical reconstruction of the domain structure in fields of about 880 Oe and then with increasing fields the domain structure became more blurred, ceasing altogether in fields of 1000 to

Card 2/3

Domain structure ...

S/126/63/015/001/017/029
E073/E420

1260 Gc. This behaviour of the domain structure was attributed to high internal stresses and lattice nonuniformities. There are 4 figures.

ASSOCIATION: Institut fiziki SO AN SSSR
(Institute of Physics SO AS USSR)

SUBMITTED: February 6, 1962

Card 3/3

ACCESSION NR: AP4023405

S/0048/64/028/003/0545/0552

AUTHOR: Kirenskiy, L.V.; Drokin, A.I.; Dy*lgerov, V.D.; Sudakov, N.I.; Sinegubov, V.I

TITLE: Domain structure in ferrites and its dynamics in varying and rotating magnetic fields [Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963]

SOURCE: AN SSSR: Izvestiya. Seriya fizicheskaya, v.28, no.3, 1964, 545-552

TOPIC TAGS: ferrite, domain structure, ferrite domain structure, garnet ferrite, garnet ferrite domain structure, spinel ferrite, spinel ferrite domain structure, hexagonal ferrite domain structure, double domain structure, domain wall fine structure

ABSTRACT: The domain structure of a number of ferrite single crystals having the garnet, spinel or hexagonal structure was investigated. The powder method of W.S. Elmore (Phys.Rev.51,10,1092, 1938) was employed to reveal the domains. The polarity of the domain boundaries was determined with the aid of the polar Kerr effect, employing a previously described technique (V.D.Dy*lgerov and A.I.Drokin, Kristallografiya,5,6,945,1960); A.I.Drokin, V.D.Dy*lgerov and B.V.Beznosikov, Ibid.9,3,465,

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1962). The Yb, Ho, Er and Gd garnet ferrites were obtained as single crystals from melts. Lead hexaferrite was also prepared in this way. Crystals of Co-Fe, Mn-Fe and Mg-Mn ferrites with the spinel structure were grown in an oxy-hydrogen flame. Spheres of 4 to 8 mm diameter were obtained. These were annealed above the Curie point and oriented in a magnetic field. The planes to be investigated were ground flat, polished and treated with hot sulfuric acid to destroy surface mosaic. Lead hexaferrite was found to have a domain structure similar to that of cobalt. The ferrites with the garnet structure had very complex domain structures, for which it does not seem possible to construct a model. "Stringy" walls, double banded walls, and curved walls were observed in different materials. The curved domain walls of gadolinium ferrite garnet would shift under the influence of an applied magnetic field. The domain structure of the spinel ferrites was somewhat less complex. The presence of double domain structure was established. Successive walls would have opposite polarity, and in the presence of a gradually increasing magnetic field alternate walls would first disappear, the remaining walls disappearing only when the field became stronger. Sometimes a single domain wall would separate into two under the influence of a field; in such a case the two new walls would have the same polarity as the old, thus interrupting the regular alternation of polarity. Wide do-

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main walls were observed in which a fine structure could be perceived. Such complex walls exhibited alternations of polarity, as though they were composed of several walls having opposite polarities. It is suggested that the double domain structure of ferrites may be due to the interaction between the two magnetic sublattices, each striving to establish its own domain pattern. Orig.art.has: 5 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Physics, Siberian Division, Academy of Sciences, SSSR)

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